

cl
int
a fused solder layer having a thickness of 2-10 μm on each surface of the electrodes; and

a straight and uniform current path formed in the resistor body between said at least two electrodes.

Add the following claims:

21. A low resistance value resistor according to claim 1, wherein said fused solder layer is formed by fused solder material of Sn:Pb=9:1 (weight %) or lead-free solder material.

22. A low resistance value resistor according to claim 1, wherein a thickness of the resistor body is 50-2000 μm .
C2

23. A low resistance value resistor according to claim 1, wherein a thickness of the electrodes is 10-500 μm .

24. A low resistance value resistor according to claim 1, wherein a thickness of the electrodes is not less than a 1/10 fraction of a thickness of the resistor body.

25. A low resistance value resistor according to claim 1, wherein said resistor body comprises Cu-Ni alloys, Ni-Cr alloys, Fe-Cr alloys, Mn-Cu-Ni alloys, Pt-Pd-Ag alloys, Au-Ag

alloys, or Au-Pt-Ag alloys.

26. A low-resistance value resistor according to claim 1, wherein said electrode comprises copper.

27. A low resistance value resistor according to claim 1, wherein a resistivity of the electrode comprised by the high electrical conductivity metal strip is not less than a $1/150$ fraction and not more than a $1/2$ fraction of a resistivity of the resistor body.

28. A low resistance value resistor according to claim 1, wherein a resistance value of the resistor is adjusted by varying at least a thickness of the resistor body.

29. A low resistance value resistor according to claim 1, wherein an insulation layer covers a portion of said surface of the resistor body defined between said electrodes.

30. A low resistance value resistor according to claim 1, wherein another insulation layer is further provided for covering another surface of said resistor body opposite to the surface of the resistor body having the electrodes.

31. A low resistance value resistor according to claim 29, wherein said insulation layer comprises one of epoxy resin, an acrylic resin, a fluorine resin, a phenol resin, a silicone resin, and a polyimide resin.

32. A low resistance value resistor according to claim 30, wherein said another insulation layer comprises one of epoxy resin, an acrylic resin, a fluorine resin, a phenol resin, a silicone resin, and a polyimide resin.

33. A low resistance value resistor comprising:

a resistor body comprised by a resistive alloy;

at least two electrodes, comprised by metal strips of flat tetragonal shape having a high electrical conductivity, each of said metal strips having a same width with a width of said resistor body, and affixed on one surface of the resistor body separately wherein a diffusion layers is formed at an interface between the resistor body and the metal strip or in an interior of the resistor body under the metal strip;

two bonding electrodes disposed at both ends of a surface of the resistor body opposite to the surface having the electrodes; and

a straight and uniform current path formed in the resistor body between said at least two electrodes.

34. A low resistance value resistor according to claim 33, wherein bonding positions are provided on an area located at lateral outer side of respective center lines of the bonding electrodes.

35. A low resistance value resistor according to claim 33, wherein material of said bonding electrodes includes nickel, aluminum, or gold.

36. A low resistance value resistor according to claim 33, wherein a fused solder layer having a thickness of 2-10 μm is provided on each surface of the electrodes.

37. A low resistance value resistor according to claim 36, wherein said fused solder layer is formed by fused solder material of Sn:Pb=9:1 (weight %) or lead-free solder material.

38. A low resistance value resistor according to claim 33, wherein a thickness of the resistor body is 50-2000 μm .

39. A low resistance value resistor according to claim 33, wherein a thickness of the electrodes is 10-500 μm .

40. A low resistance value resistor according to claim 33, wherein a thickness of the electrodes is not less than a 1/10 fraction of a thickness of the resistor body.

41. A low resistance value resistor according to claim 33, wherein said resistor body comprises Cu-Ni alloys, Ni-Cr alloys, Fe-Cr alloys, Mn-Cu-Ni alloys, Pt-Pd-Ag alloys, Au-Ag alloys, or Au-Pt-Ag alloys.

42. A low-resistance value resistor according to claim 33, wherein said electrode comprises copper.

43. A low resistance value resistor according to claim 33, wherein a resistivity of the electrode comprised by the high electrical conductivity metal strip is not less than a $1/150$ fraction and not more than a $1/2$ fraction of a resistivity of the resistor body.

44. A low resistance value resistor according to claim 33, wherein a resistance value of the resistor is adjusted by varying at least a thickness of the resistor body.

45. A low resistance value resistor comprising:

a resistor body comprised by a resistive alloy;

at least two electrodes, comprised by metal strips of flat tetragonal shape having a high electrical conductivity, each of said metal strips having a same width with a width of said resistor body, and affixed on one surface of the resistor body separately, wherein a diffusion layer is formed at an interface between the resistor body and the metal strip or in an interior of the resistor body under the metal strip;

a fused solder layer having a thickness of 2-10 μm on each surface of the electrodes;

two wire sites disposed at both ends of a surface of the resistor opposite to the surface having the electrodes; and

a straight and uniform current path formed in the resistor body between said at least two electrodes.

46. A low resistance value resistor according to claim 45, wherein said fused solder

layer is formed by fused solder material of Sn:Pb=9:1 (weight %) or lead-free solder material.

47. A low resistance value resistor according to claim 45, wherein a thickness of the resistor body is 50-2000 μm .

48. A low resistance value resistor according to claim 45, wherein a thickness of the electrodes is 10-500 μm .

CP
cut
49. A low resistance value resistor according to claim 45, wherein a thickness of the electrodes is not less than a 1/10 fraction of a thickness of the resistor body.

50. A low resistance value resistor according to claim 45, wherein said resistor body comprises Cu-Ni alloys, Ni-Cr alloys, Fe-Cr alloys, Mn-Cu-Ni alloys, Pt-Pd-Ag alloys, Au-Ag alloys, or Au-Pt-Ag alloys.

51. A low-resistance value resistor according to claim 45, wherein said electrode comprises copper.

52. A low resistance value resistor according to claim 45, wherein a resistivity of the electrode comprised by the high electrical conductivity metal strip is not less than a 1/150 fraction and not more than a 1/2 fraction of a resistivity of the resistor body.

Serial Number: 09/825,446

53. A low resistance value resistor according to claim 45, wherein a resistance value of the resistor is adjusted by varying at least a thickness of the resistor body.